**Rebecca Shen**

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**Education**

Tufts University *Expected May 2022*

Bachelor of Science in Mechanical Engineering *Medford, MA*

G.P.A 3.77, Dean’s List

*Relevant Courses:* Electromechanical Systems & Robotics; Intro to Robotics and Mechanics; Engineering Design; Materials and Manufacturing; Mechanics; Thermal Fluid Systems; Differential Equations; Linear Algebra; Probability & Statistics– *Fall 2021:* Digital Controls & Dynamic Systems; Robotics

Shanghai American School(SAS) *May 2018*

G.P.A 3.86, Magna Cum Laude, National Merit Commended Student, AP Scholar with Distinction *Shanghai, China*

**Work Experience**

Future Educational Technology Lab *June 2021 – August 2021*

*Research Intern* *Tufts Center for Engineering Education and Outreach*

* Designed LEGO robotic systems integrated with IoT, AI, and data analytics
* Trained systems using JavaScript, Python, and advanced ML algorithms using PTC’s industrial IoT platform ThingWorx and TensorFlow
* Expanded SPIKE Prime robot functionalities by developing WiFi communication interfaces with REST API and MQTT

Course Assistant for Mechanics I *September 2020 – December 2020*

*Tufts University Mechanical Engineering Department*

* Graded assignments, held weekly office hours, advised and supported Arduino/MATLAB labs for engineering students
* Participated in a weekly pedagogy seminar to discuss and enhance diversity and inclusion in engineering courses

Engineering Education Intern *June 2020 – August 2020*

*Tufts Center for Engineering Education and Outreach*

* Aided curriculum development for Mechanics I & II with professors to incorporate hands-on modeling and simulation tools
* Created 14 supplementary video and MATLAB script modules for statics, dynamics, and mechanics of materials
* Simulated a kinetic sculpture mechanism and validated results with SolidWorks and Logger Pro video analysis

Student Teacher Outreach Mentorship Program (STOMP) *September 2018 – December 2019*

*STOMP Fellow (January 2019 – December 2019)* *Tufts Center for Engineering Education and Outreach*

* Developed and taught weekly lessons aimed to implement STEM education in local elementary schools
* Introduced engineering design process to students using Lego Robotics and Scratch coding

*Resident (Fall 2018)*

* Mentored small groups of K-6 students while assisting weekend engineering workshops
* Coordinated with residents to plan and lead a 25-student workshop that explored real-life engineering problems

**Projects**

ADORE-Sat Cube Satellite(Tufts) *January 2019 – Present*

*Communications/Ground Station Subsystem Co-Lead*

*Students for the Exploration and Development of Space (SEDS) Member*

* Develop nanosatellite using MIT electrospray thrusters as part of Boston Space Alliance (Tufts, MIT, Northeastern)
* Strategize with subsystem to establish radio communications, secure a ground station, and calculate link margin

**Activities**

American Society of Mechanical Engineers (ASME) & Society of Women Engineers (SWE) *Fall 2018 – Present*

**Skills**

Software & Hardware: Java, JavaScript, MicroPython, Python, R, C++, MATLAB, SolidWorks, COMSOL, Arduino, Raspberry Pi, KiCad, LabVIEW

Other: FCC Technician License for Amateur Radio, Mandarin, Piano (14 years), Violin (8 years)